370 .....Using surface current electrodes
371 .....Using plural fields
372 .....Between spaced boreholes
373 .....Using current focussing means
374 ......Including a pad member
375 ......Including plural current focussing arrays
376 **OF SUBSURFACE CORE SAMPLE**
377 .For magnetic properties
378 **INTERNAL-COMBUSTION ENGINE IGNITION SYSTEM OR DEVICE**
379 .With analysis of displayed waveform
380 .Electronic ignition system
381 ..With magnetically controlled circuit
382 ..With capacitor discharge circuit
383 .By simulating or substituting for a component under test
384 .Using plural tests in a conventional ignition system
385 .Distributor
386 ..Dwell (i.e., cam angle)
387 ..Condenser
388 .Coil
389 .Magneto
390 .Low or high tension lead
391 .Ignition timing
392 ..Using a pulse signal technique
393 .In situ testing of spark plug
394 ..With cathode-ray tube display
395 ..Using an illuminating device to indicate spark plug condition
396 ..With an air gap in series with spark plug to indicate spark plug condition
397 ..By shorting the plug to ground to indicate spark plug condition
398 ...With air gap in ground circuit
399 ..Wherein a measured electric quantity indicates spark plug condition
400 .Spark plug removed or tested in a test fixture
401 ..Using a pressure chamber
402 .Apparatus for coupling a measuring instrument to an ignition system
403 **ELECTRIC LAMP OR DISCHARGE DEVICE**
404 .Cathode-ray tube
405 .Vacuum tube
406 ..Plural tubes in the testing circuit
407 ..Testing circuit for diverse-type tube
408 ..Circuit for making diverse test
409 ..Testing discharge space characteristic (e.g., emission)
410 ...With application of current or potential to the discharge control means
411 ....Pulsating or alternating current or potential for the discharge control means
412 .....Pulsating or alternating current for the anode
413 ..Shock testing
414 .Electric lamp
415 **ELECTROMECHANICAL SWITCHING DEVICE**
416 .Voltage regulator
417 .Thermostat switch
418 .Relay
419 ..Reed switch
420 ..To evaluate contact chatter
421 ..To evaluate contact resistance
422 ..To evaluate contact sequence of operation
423 ..To evaluate contact response time
424 .Circuit breaker
425 **ELECTROLYTE PROPERTIES**
426 .Using a battery testing device
427 ..To determine ampere-hour charge capacity
428 ...Including an integrating device
429 ..To determine load/no-load voltage
430 ..To determine internal battery impedance
431 ..With temperature compensation of measured condition
432 ..To determine battery electrolyte condition
433 ..To compare battery voltage with a reference voltage
434 ..To determine plural cell condition
435 ..Having particular meter scale or indicator

229 ..Thickness measuring
230 ...Layer or layered material
231 ...With backing member
232 ..Plural magnetic fields in material
233 ..With phase sensitive element
234 ..Electrically energized nonforce type sensor
235 ...Noncoil type
236 ...Oscillator type
237 ....Material flaw testing
238 ...Material flaw testing
239 ..Induced voltage-type sensor
240 ...Material flaw testing
241 ....Opposed induced voltage sensors
242 ....Plural sensors
243 ...Plural sensors
244 .Magnetometers
244.1 ..Optical
245 ..Plural sensor axis misalignment correction
246 ..With means to align field sensor with magnetic field sensed
247 ..Nonparallel plural magnetic sensors
248 ..Superconductive magnetometers
249 ..Thin film magnetometers
250 ..Electronic tube or microwave magnetometers
251 ..Hall plate magnetometers
252 ..Semiconductor type solid-state or magnetoresistive magnetometers
253 ..Saturable core magnetometers
254 ...Second harmonic type
255 ...Peak voltage type
256 ..Energized movable sensing coil magnetometers
257 ..Moving coil magnetometer
258 ..Fixed coil magnetometer
259 ..Movable magnet or magnetic member interacts with magnetic field
260 .Magnetic field detection devices
261 ..With support for article
262 .Magnetic test structure elements
263 .Current through test material forms test magnetic field
500 **FAULT DETECTING IN ELECTRIC CIRCUITS AND OF ELECTRIC COMPONENTS**
501 .Using radiant energy
502 .In an ignitor or detonator
503 .In vehicle wiring
504 ..With trailer
505 ..Combined with window glass
506 .Combined with a flashlight
507 ..With fuse testing attachment
508 .With electric power receptacle for line wire testing
509 .Of ground fault indication
510 ..Of electrically operated apparatus (power tool, appliance, machine, etc.)
511 .Of electrically operated apparatus (power tool, appliance, machine, etc.)
512 .For fault location
513 ..Where component moves while under test
514 ...By exposing component to liquid or gas while under test
515 ...Using a particular sensing electrode
516 ....Metal chain
517 ....Wire bristles
518 ....Metal pellets or beads
519 ..By capacitance measuring
520 ..By frequency sensitive or responsive detection
521 ..By phase sensitive or responsive detection
522 ..By voltage or current measuring
523 ...Of an applied test signal
524 ...Polarity responsive
525 ..By resistance or impedance measuring
526 ...Using a bridge circuit
527 ..By applying a test signal
528 ...Tracing test signal to fault location
529 ....Using a magnetic field sensor
530 ....Using an electric field sensor
531 ...At fault site
532 ...Using time measuring
533 ....Of reflected test signal
534 ..By reflection technique
535 ..By time measuring
536 ..By spark or arc discharge
537 .Of individual circuit component or element
750 ..System sensing fields adjacent device under test (DUT)
751 ...Using electron beam probe
752 ...Using light probe
753 ...Using electro-optic device

754	..With probe elements
755	...Internal of or on support for device under test (DUT)
756	...Contact confirmation
757	...Probe contact enhancement
758	...Probe alignment or positioning
759	...With recording of test results on DUT
760	...With temperature control
761	...Pin
762	...Cantilever
763	..DUT including test circuit
764	..With identification of DUT
765	..Test of semiconductor device
766	...With barrier layer
767	....Diode
768	....Bipolar transistor
769	....Field effect transistor
770	..Liquid crystal device test
771	..Power supply test
772	..Motor or generator fault tests
538	..Electrical connectors
539	..Multiconductor cable
540	...With sequencer
541	...For insulation fault
542	...Having a light or sound indicator
543	..Single conductor cable
544	...For insulation fault
545	..Armature or rotor
546	..Winding or coil
547	...Transformer
548	..Capacitor
549	..Resistor
550	..Fuse
551	..Insulation
552	...Bushing
553	...Oil
554	...Sheet material
555	.Instruments and devices for fault testing
556	..Having a lamp or light indicator
557	**FOR INSULATION FAULT OF NONCIRCUIT ELEMENTS**
558	.Where element moves while under test
559	.Where a moving sensing electrode scans a stationary element under test
600	**IMPEDANCE, ADMITTANCE OR OTHER QUANTITIES REPRESENTATIVE OF ELECTRICAL STIMULUS/RESPONSE RELATIONSHIPS**
601	.Calibration
602	.With auxiliary means to condition stimulus/response signals
603	..For excitation
604	...Including marker signal generator circuit
605	..For response signal evaluation or processing
606	...Including a signal comparison circuit
607	...Including a conversion (e.g., A->D or D-> A) process
608	...Including a ratiometric function
609	..For sensing
610	...Including a bridge circuit
611	...Including a remote type circuit
612	.Parameter related to the reproduction or fidelity of a signal affected by a circuit under test
613	..Noise
614	...Signal to noise ratio or noise figure
615	..Transfer function type characteristics
616	...Gain or attenuation
617	...Response time or phase delay
618	...Transient response or transient recovery time (e.g., damping)
619	...Selective type characteristics
620	..Distortion
621	...Envelope delay
622	...Phase
623	...Harmonic
624	...Intermodulation
625	...Dissymmetry or asymmetry
626	...Nonlinearity
627	..Shielding effectiveness (SE)
628	...Circuit interference (e.g., crosstalk) measurement
629	.Distributive type parameters
630	..Plural diverse parameters
631	..Using wave polarization (e.g., field rotation)
632	..Using particular field coupling type (e.g., fringing field)
633	..Using resonant frequency
634	...To determine water content
635	...To determine dimension (e.g., distance or thickness)
636	...With a resonant cavity

637 ..Using transmitted or reflected microwaves
638 ...Scattering type parameters (e.g., complex reflection coefficient)
639 ...Where energy is transmitted through a test substance
640 ....To determine water content
641 ....To determine insertion loss
642 ...Where energy is reflected (e.g., reflectometry)
643 ....To determine water content
644 ....To determine dimension (e.g., distance or thickness)
645 ....Having standing wave pattern
646 ....To determine reflection coefficient
647 ..Using a comparison or difference circuit
648 ...With a bridge circuit
649 .Lumped type parameters
650 ..Using phasor or vector analysis
651 ...With a bridge circuit
652 ..Of a resonant circuit
653 ..For figure of merit or Q value
654 ..Using inductive type measurement
655 ...Including a tuned or resonant circuit
656 ...Including a comparison or difference circuit
657 ....Using a bridge circuit
658 ..Using capacitive type measurement
659 ...With loss characteristic evaluation
660 ...With variable electrode area
661 ...With variable distance between capacitor electrodes
662 ....To determine dimension (e.g., thickness or distance)
663 ...Where a material or object forms part of the dielectric being measured
664 ....To determine water content
665 .....By comparison or difference circuit
666 ......Including a bridge circuit
667 .....By frequency signal response, change or processing circuit
668 ......Including a tuned or resonant circuit
669 .....With compensation means
670 ......For temperature variations
671 ....To determine dimension (e.g., dielectric thickness)
672 ....By comparison or difference circuit
673 .....Including a bridge circuit
674 ....By frequency signal response, change or processing circuit
675 .....Including a tuned or resonant circuit
676 ...With pulse signal processing circuit
677 ....Including R/C time constant circuit
678 ....Including charge or discharge cycle circuit
679 ...With comparison or difference circuit
680 ....Including a bridge circuit
681 ...With frequency signal response, change or processing circuit
682 ....Including a tuned or resonant circuit
683 ...With phase signal processing circuit
684 ...With compensation means
685 ....For temperature variation
686 ...With a capacitive sensing means
687 ....Having fringing field coupling
688 ....Including a guard or ground electrode
689 ....To determine water content
690 ....Including a probe type structure
691 ..Using resistance or conductance measurement
692 ...With living organism condition determination using conductivity effects
693 ...With object or substance characteristic determination using conductivity effects
694 ....To determine water content
695 .....Where the object moves while under test
696 .....With a probe structure
697 ....For interface
698 ....To determine oil qualities
699 ....To determine dimension (e.g., distance or thickness)
700 .....Including corrosion or erosion

76.14 ...Radiometer (e.g., microwave, etc.)
76.15 ...With sampler
76.16 ...With counter
76.17 ...With integrator
76.18 ...With slope detector
76.19 ..Frequency spectrum analyzer
76.21 ...By Fourier analysis
76.22 ...Real-time spectrum analyzer
76.23 ...With mixer
76.24 ...With sampler
76.25 ...With slope detector
76.26 ...Scanning-panoramic receiver
76.27 ....With particular sweep circuit
77.11 ...Nonscanning
76.28 ....Digital filter
76.29 ....With filtering
76.31 .....Parallel filters
76.32 ......With space discharge device
76.33 ....Correlation
76.34 .....With space discharge device
76.35 ....With delay line
76.36 ....With optics
76.37 .....Bragg cell
76.38 ..With sampler
76.39 .Frequency of cyclic current or voltage (e.g., cyclic counting etc.)
76.41 ..Frequency comparison, (e.g., heterodyne, etc.)
76.42 ...With sampler
76.43 ...With plural mixers
76.44 ...With filtering
76.45 ....Bandpass
76.46 ....Plural
76.47 ...Digital output
76.48 ....With counter
76.49 ..Tuned mechanical resonator (e.g., reed, piezocrystal, etc.)
76.51 ..By tuning (e.g., to resonance,etc.)
76.52 ..By phase comparison
76.53 ...With phase lock
76.54 ...With delay line
76.55 ...Digital output
76.56 ....With microwave frequency detection
76.57 ....With tone detection
76.58 ....With sampler
76.59 ....With multiplexing
76.61 ....With memory
76.62 ....With counter
76.63 .....Using register
76.64 .....Plural
76.65 ....With space discharge device
76.66 ...With capacitive energy storage
76.67 ....With space discharge device
76.68 ...With filtering
76.69 ...Current output proportional to frequency
76.71 ...Nulling circuit
76.72 ...Qualitative output
76.73 ...With saturable device
76.74 ...Deviation measurement
76.75 ..Having inductive sensing
76.76 ..With space discharge device
76.77 .Phase comparison (e.g., between cyclic pulse voltage and sinusoidal current, etc.)
76.78 ..Quadrature sensing
76.79 ..Feedback control, electrical
76.81 ..Feedback control, mechanical
76.82 ..Digital output
76.83 ..Analog output
84 ..With waveguide (e.g., coaxial cable)
85 ..With frequency conversion
86 ..Polyphase (e.g., phase angle, phase rotation or sequence)
87 ..With nonlinear device (e.g., saturable reactor, rectifier), discharge device (e.g., gas tube) or lamp
88 ...Cathode ray
89 ...Space discharge control means (e.g., grid)
90 ..Electrodynamometer instrument
91 ..Synchroscope type
92 .Fluid (e.g., thermal expansion)
93 ..Conductive field (e.g., mercury)
94 ...Electrolytic
95 .With waveguide or long line
96 .Using radiant energy
97 ..Light beam type (e.g., mirror galvanometer, parallax-free scale)
98 .Balancing (e.g., known/unknown voltage comparison, bridge, rebalancing)
99 R ..Automatic
100 ...With recording
99 D ...Digital voltmeters
101 .Non-rebalancing bridge
102 .Transient or portion of cyclic

103 R .Demand, excess, maximum or minimum (e.g., separate meters for positive and negative power, peak voltmeter)
104 ..Thermal (e.g., actuation)
103 P ..Peak voltmeters
105 .Thermal (e.g., compensation)
106 ..Actuation
107 .Polyphase
108 ..Positive, negative or zero sequence
109 .Electrostatic attraction or piezoelectric
110 .Meter protection or fraud combatting
111 .With storage means for voltage or current (e.g., condenser banks)
112 ..Tape, sheet (e.g., disk) or wire (e.g., magnetic) storage
113 .Recording
114 .Plural meters (e.g., plural movements in one case)
115 .Plural ranges, scales or registration rates
116 ..With register (e.g., discount type, demand penalty)
117 R .Magnetic saturation (e.g., in field or in amplifier)
117 H ..Hall effect
118 .Modulator/demodulator
119 .With rectifier (e.g., A.C. to D.C.)
120 .With voltage or current conversion (e.g., D.C. to A.C., 60 to 1000)
121 R .Cathode ray (e.g., magic eye)
121 E ..Magic eye indicators
122 .Gaseous discharge (e.g., spark gap voltmeter)
123 R .With amplifier or space discharge device
124 ..Inverted amplifier
123 C ..Feedback amplifiers
125 .Inertia control, instrument damping and vibration damping
126 .With coupling means (e.g., attenuator, shunt)
127 ..Transformer (e.g., split core admits conductor carrying unknown current)
128 ..Selective filter
129 .Polepiece (e.g., split) admits nonunitary input conductor
130 .Self-calibration
131 .Suppressed zero
132 .Nonlinear (e.g., Thyrite)
133 .Nonquantitative (e.g., hot-line indicator, polarity tester)
134 .With commutator or reversing or pulsating switch (e.g., D.C. watt-hour meter)
135 ..Oscillating
136 .With rolling wheel or ball (e.g., transmission, integrating)
137 .Eddy current rotor (e.g., A.C. integrating wattmeter)
138 ..With phase adjustment
139 .Motor-driven, time-controlled or oscillating (e.g., ratchet)
140 R .Plural inputs (e.g., summation, ratio)
141 ..Voltamperes (real or reactive)
142 ..Watts
140 D ..Ratio
143 .Plural active motor elements (e.g., for two crossed pointers)
144 .With electromagnetic field (e.g., dynamometer)
145 ..Solenoid plunger type
146 ..With permanent magnet (e.g., field, vane)
147 ..Soft iron vane
149 .With probe, prod or terminals
150 .Eccentrically pivoted coil
151 R .With permanent magnet
152 ..Drag magnet
151 A ..Permanent magnet core
153 .With register
154 R .With rotor (e.g., filar suspension, zero set, balancing)
155 ..With pivot (e.g., internal friction compensation, anticreep)
154 PB ..Pointer and bearing details
156 .Casings
157 .Combined
158.1 **MISCELLANEOUS**

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